

USSR/Farm Animals - General Problems.

G-1

Abs Jour : Ref Zhur - Biol., No 18, 1953, 83311

Author : Zhuravlev, Ye.M., Batina, N.A.

Inst : Penza Institute of Agriculture.

Title : Vitamin D Contents in Hay, Depending upon Crops and Various  
Grass Drying Methods Employed in Hay Storing.

Orig Pub : Sb. tr. Penzensk. s.-in. in-ta, 1956, vyp. 1, 276-281.

Abstract : No abstract.

Card 1/1

ZHURAVLEV, Ye. M.

USSR/Farm Animals - General Problems.

Q-1

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30900

Author : Zhuravlev Ye.M.

Inst : ~~✓~~  
Title : The Effect of the Duration and Conditions of the Storage  
of Hay and Hay Meal upon Their Carotene Content.  
(Vliyanie prodolzhitel'nosti i usloviy khraneniya sennya  
i sennoy muki na soderzhanii v nikh karotina)

Orig Pub : Sb. tr. Penzensk. s.-kh. in-ta, 1956, vyp. 1, 290-300.

Abstract : During the storage of hay in stacks, in a barn, or in  
the form of hay meal for 6-10 months, 60-80% of the  
carotene which the hay contained at the beginning of  
storage is destroyed. In the summer and early fall, the  
carotene content in the hay meal is destroyed more rapidly  
than during winter storage. Carotene is preserved  
best in hay meal made into briquettes.

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USSR / Farm Animals. General Problems.

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 211:9

become dehydrated, osmotic pressure of cellular juice increases, as well as transparency of protoplasm, the original structure of the protein complex becomes disrupted, proteins are subjected to denaturation, the stability of the pigment-protein-lipoid complex of plastids becomes impaired, and as a result losses of nutritive substances increase. -- F. M. Kazantsev

Card 2/2

USSR / Cultivated Plants. Fodder Grasses and Edible Roots. M

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 24923

water content, pigments (chlorophyll, carotene, xanthophyll) and carbohydrates (monosaccharides, saccharose, starch) were determined in the leaves and the stalks. Qualitative analyses of the leaves for protein and starch content were conducted. As the plants develop, the percent content of their pigments is decreased, the tissues' water capacity is lowered, the reciprocal relation between the weight of leaves and stalks changes in favor of increasing the relative share of the stalks. There were 4-18 times fewer pigments in the stalks than in the leaves, this difference growing larger as the plants developed. The correlation between the quantities of xanthophyll and

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USSR / Cultivated Plants. Fodder Grasses and Edible Roots. M

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 24923

almost completely was absent. The total quantity of soluble carbohydrates in the stalks were considerably higher than in the leaves. The maximum content of starch was observed more often in 14 hours. Starch and protein content was usually found in reverse correlation. In the stalks and leaves of oats, starch was almost absent; the soluble carbohydrates, on the whole, are represented by saccharose. The task was carried out in 1956. -- G. N. Chernov

Card 4/4

ZHURAVLEV, Ye.V.

Treatment with a mixture of magnesium sulfate and novocaine in  
acute ischias. Sov.med. no.3:99-101 '62. (MIRA 15:5)

1. Iz kliniki nervnykh bolezney (zav. - prof. P.A. Poyemnyy)  
Gor'kovskogo meditsinskogo instituta i iz mediko-sanitarnoy chasti  
(nach. - zasluzhennyj vrach RSFSR V.V. Bogoslovskaya) Gor'kovskogo  
avtozavoda.  
(SCIATICA) (MAGNESIUM SULFATE--THERAPEUTIC USE)  
(NOVOCAIN)

VOLKOVA, M.G.; ZHURAVLEV, Ye.M.

Effect of gibberellic acid on various farm crops. Fiziol. rast.  
10 no.2:231-234 Mr-Ap '63. (MIRA 16:5)

1. Penza Agricultural Institute.  
(Gibberellic acid) (Field crops)

ZHURAVLEV, Yevgeniy Mikhaylovich; BALAKIN, V.M., red.; TRIKHKINA,  
O.N., tekhn. red.

[Manual on the zootechnical analysis of feeds] Rukovodstvo  
po zootehnicheskому analizu kormov. Moscow, Sel'khozizdat,  
1963. 294 p. (MIRA 16:10)

(Feeds--Analysis)

ZHURAVLEV, Ye.N., kand.veterinarnykh nauk

Prophylaxis of alimentary ketonuria in pregnant sheep by  
feeding them pine needles. Veterinarii 38 no.10:60-61 O '61.  
(MIRA 16:2)

1. Glavnnyy veterinaryy vrach Dubenskogo rayona, Mordovskoy ASSR.  
(Dubenki District—Sheep—Diseases and pests)

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065020016-9

ALAD'IN, V.N., inzh.; ZHURAVLEV, Ye.S., inzh.

Construction and architecture of glass reinforced plastic launches.  
Sudostroenie 30 no.8;24-27 Ag '64. (MIRA 18:7)

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065020016-9"

ZHURAVLEV, Ye.V. (Gor'kiy)

Treatment of acute lumbosacral radiculitis by the algesic stimulation of the skin under outpatient conditions. Vrach.delo no.8:14d-149 Ag '62. (MIRA 15:11)

1. Klinika nervnykh bolezney (zav. - prof. F.A.Poyemnyy) meditsinskogo instituta i medikosanitarnaya chast' Gor'kovskogo avtozavoda. (NERVES, SPINAL—DISEASES) (OINTMENTS)

ZHURAVLEV, Ye.V. (Gor'kiy)

Microwave therapy in acute sciatica. Klin. med. 41 no. 9:140-142  
S'63 (MIRA 1783)

1. Iz kliniki nervnykh bolezney (zav. - prof. F.A. Poyemnyj)  
Gor'kovskogo meditsinskogo instituta i iz mediko-sanitarnoy  
chasti (nachal'nik - zasluzhennyj vrach RSFSR V.V. Bogoslov-  
skaya) Gor'kovskogo avtomobil'nogo zavoda.

ZHURAVLEV, Ye.V.

Outpatient treatment of acute lumbosacral radiculitis by means of  
diadynamic currents and vitamin B<sub>12</sub>. Sov. med. 28 no.3:136-139  
Mr. '65.

(MIRA 18:10)

1. Mediko-sanitarnaya chast' (glavnnyy vrach - zasluzhennyy vrach  
RSFSR V.V.Bogoslavskaya) Gor'kovskogo avtobusnogo zavoda.

BELKOV, Georgiy Mikhaylovich; LITENKO, Nikolay Tikhonovich;  
ZHURAVLEV, Yuriy Arsen'yevich; SAMOKHOTSKIY, A.I.,  
inzh., ved. red.; OL'SHANSKAYA, I.V., inzh., red.;  
SOROKINA, T.M., tekhn. red.

[Effect of heating conditions on the plastic properties of  
9KhF steel at forging temperatures. Skid hopper for metal  
feed from the furnace to the forging hammer] Vliyanie re-  
zhima nagreva na plasticheskie svoistva stali 9KhF pri ko-  
vochnykh temperaturakh. Metallepedavatel' ot pachi k ko-  
vochnomu moloetu. [By] IU.A.Zhuravlev. Moskva, Filial Vses.  
in-ta nauchn. i tekhn. informatsii, 1958. 14 p. (Pere-  
voi nauchno-tehnicheskii i proizvodstvennyi opyt. Tema 5.  
No.M-58-252/14)

(Metals, Effect of temperature on)  
(Forge shops--Equipment and supplies)

ZHURAVLEV, Yu. A.

"On Simplification of Normal Forms"

presented at the All-Union Conference on Computational Mathematics and Computational Techniques, Moscow, 16-28 November 1961

So: Problemy kibernetiki, Issue 5, 1961, pp 289-294

ZHURAVLEV, Yu.A.

Conveying machinery in forge shops. Kuz.-shtam.proizv. 5 no.8:45-46  
Ag. '63. (MIRA 16:9)

KRYZHANOVSKIY, V.A., inzh.; ZHURAVLEV, Yu.A., inzh.;  
SADOF'YEVA, L.N., inzh.; KOSTYUKHIN, V.G., inzh.

Corrosion products in the water and vapor channel of a high-pressure thermal electric power plant. Elek. sta. 35 no.5: 11-14 My '64. (MIRA 17:8)

BALABAYEV, G.M., inzh.; DZHEVAGA, I.I., kand. tekhn. inzh.; ZHURAVLEV, Yu.A.,  
inzh.; ZAPCROZHETS, Ye.A., inzh.

Negative effect of the sold ring of liners on the corrosion and  
fatigue strength of tail shafts. Sudostroenie 30 no.7:54-55  
Jl. '64. (MIRA 12:9)

L 24458-66 EVI(m)/ENP(n)/ENA(d)/ENP(v)/T/ENP(t)/ENP(e) IUF(c) JU/R  
 ACC NR: AF6012278 (H) SOURCE CODE: UR/012/05/000/011/0016/0019

37  
B

AUTHOR: Dzhevaga, I. I.; Zhuravlev, Yu. A.

ORG: Nikolayev Plant im. Nosenko (Nikolayevskiy zavod)

TITLE: Relationship between the structure of bronze weld joints and their resistance to crystallization cracks 18 18 18

SOURCE: Avtomaticheskaya svarka, no. 11, 1965, 16-19

TOPIC TAGS: bronze, arc welding, metal crystallization, phase composition, weld defect

ABSTRACT: The authors discuss the difficulties involved in eliminating crystallization cracks when welding OTs10-2 tin bronze. Welding tests of this material show that joints which form a two-phase  $\alpha+\beta$ -structure with peritectic conversion have greater resistance to the formation of crystallization cracks than joints with the structure of a single-phase  $\alpha$ -solid solution. The stability of the two-phase joints with respect to crystallization cracks is probably due to the rather high ductility of the seam metal at high temperatures caused by crystallization of this type of alloy during peritectic conversion as well as by phase transformations, which take place at a high rate below the solidus temperature. It is recommended that bronze rod containing 11-13% Sn and 2-4% Zn should be used for electric arc flux welding of OTs10-2 tin

UDC: 621.791.053 : 669.35.6 : 620.191.32

2

Card 1/2

L 24458-66

ACC NR: AP6012278

bronze. OTs12-3 bronze powder rod has been developed for this purpose. Orig. art.  
has: 6 figures.

SUB CODE: 11,13/ SUBM DATE: 11Jan65/

ORIG REF: 005/

OTH REF: 000

Card 2/2022

L 03782-67 EWT(d)/EWT(1)/EWT(m)/EWP(w)/EWP(v)/T-2/EWP(k) IIP(c)

ACC NR: AT6028562 DE/WW/JW/EM/WE/CD SOURCE CODE: UR/0000/66/000/000/0217/0234

AUTHOR: Vasil'yev, Yu. N.; Zhuravlev, Yu. A.; Konotop, V. A.

50

Bx1

ORG: none

TITLE: Experimental study of a three-jet gas ejectorSOURCE: Lopatochnyye mashiny i struynnye apparaty (Vane machinery and jet apparatus);  
sbornik statey, no. 1. Moscow, Izd-vo Mashinostroyeniye, 1966, 217-234TOPIC TAGS: jet ~~flow~~, ejector design, gas ejector

ABSTRACT: An experimental study was made of a three-jet gas ejector in an attempt to improve ejector efficiency. The three-jet ejector consists of a converging nozzle for the high pressure gas and an annular nozzle for the low-pressure gas, and is similar to a conventional ejector; it is, however, also equipped with a tube in the center of the converging nozzle through which part of the low-pressure gas is introduced. Plots were obtained for the dependence of the compression ratio on the pressure drop in the forechamber, at various positions of the central tube, and with the converging nozzles having diameter ratios of 0.55, 0.45, and 0.35. The results showed that a compression ratio of 31 and a pressure drop of 240 can be obtained in the three-jet ejector when the outlet of the central tube is located in the minimum pressure zone. This compares very favorably with the 5.6 and 42.5 values obtained in a conventional ejector. By using a start-up control in which the central tube outlet is gradually moved into the

Card 1/2

UDC: 629.13.03:621.176.001.5

L 03782-67

ACC NR: AT6028562

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minimum pressure zone, a compression ratio of 44 · and a pressure drop of 340 can be obtained. The overall results indicate that the operation of a conventional ejector can be substantially improved by installing a central tube for the low-pressure gas. [PV]  
Orig. art. has: 12 figures.

SUB CODE: 21/ SUBM DATE: 06Apr66/ ATD PRESS: 5063

Card 212 Xff

ACC NR: AT7002859

(M)

SOURCE CODE: UR/3239/66/000/003/0108/0115

AUTHOR: Zhuravlev, Yu. A.

ORG: none

TITLE: On the question concerning the operation of fuel systems with divided delivery tubings

SOURCE: Nikolayev. Korabestroitel'nyy institut. Sudostroyeniye i morskiye sooruzheniya, no. 3, 1966. Sudovyye energeticheskiye ustanovki (Ship power equipment), 108-115

TOPIC TAGS: diesel engine, engine fuel system, engine performance characteristic, fuel injection, fuel line

ABSTRACT: The fuel system of a diesel engine with divided delivery tubing to the separate injection jets of each cylinder was studied. When the length of the tubing to the second jet exceeds the tubing length of the first jet by 80%, the fuel delivery to the second jet is delayed by 15—20% (during which time 7—10% of the fuel is delivered). This situation produces smoother engine operation. Increasing the second jet tubing decreases the second jet pressure (by 7—10% for an 80% increase), increases the residual pressure in the system, and increases the second jet delivery delay time. If the divider is located at the pumps, their pressure characteristics remain unchanged, and the loss

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ACC NR: AT7002859

does not exceed 3—5%. If additional tubing separates the pump and divider, the speed imparted to the fuel causes a hydraulic shock which locally increases the pressure and its losses. If a volume equal to 15% of the total system volume is established in the divider, it acts as an energy accumulator, reducing the pressure in the divider and at the jets by 10%, while leaving unchanged the pump pressure, residual pressure, and the fuel delivery. The hydraulic resistance effect is studied by interchanging the tubing to the different jets. A pressure valve makes the system more effective. The ratio of line length to diameter in the tests is 670, which is approximately the same as for marine diesels. Orig. art. has: 4 figures.

SUB CODE: 13, 21/ SUBM DATE: none/ ORIG REF: 001

Card 2/2

ZHURAVLEV, Yu. I.

"On Algorithms of Construction of Minimal Disjunctive Normal Forms"  
(4 and 11 March 1960), DAN SSSR 132, No. 2, 160, 260; DAN SSSR 132,  
No. 3, 1960, 504.

paper delivered at the Moscow State University in 1959/1960 academic year at  
the seminar on mathematical problems of cybernetics under the leadership  
of S. V. Yablonskiy

8/582/62/000/008/001/013  
1405/0301

AUTHOR: Zhuravlev, Yu. I. (Novosibirsk)

TITLE: Set-theoretical methods in the algebra of logic

SOURCE: Problemy kibernetiki, no. 8, Moscow, 5-44

TEXT: Special simplifying algorithms for disjunctive normal forms are considered. This problem is related to automatic control theory. There are 5 chapters. Chapter I sets forth the basic concepts of the theory of disjunctive normal forms in terms of n-dimensional unit cube geometry. The major part of this chapter is related to S. V. Yablonskiy's paper (Ref. 1: Funktsional'nyye postroyeniya v k-znachnoy logike, Trudy Matematicheskogo in-ta im. V. A. Steklova, 51, 1959, 5-143). The following concepts are defined: elementary conjunction, disjunctive normal form (d.n.f.), minimal d.n.f. of a function, interval of k-th rank, maximal interval, abbreviated d.n.f. of a function. Theorem 1: A minimal d.n.f. of the function  $f(x_1, \dots, x_n)$  is obtained from an abbreviated d.n.f. of the

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S/532/S2/000/008/001/013

D405/1301

Set-theoretical methods ...

function  $f(x_1, \dots, x_n)$  by removing some elementary conjunctions. The covering of the set  $N_f$  by maximal intervals is said to be irreducible if on removal of any of its intervals it ceases to be a covering. A d.n.f. of a function  $f$  is said to be blind (dead-end) if an irreducible covering of the set  $N_f$  corresponds to it. A simplifying process is described which transforms an abbreviated d.n.f. into a blind d.n.f. A disjunction  $\mathcal{U}$  of elementary conjunctions  $U_i$  is said to absorb the elementary conjunction  $U_j$  if  $(U_j \rightarrow U_i) \equiv 1$ . Two theorems are proved on absorption of elementary conjunctions by disjunctions. Chapter II deals with the d.n.f.  $\mathcal{U}_{LT}$  (the logical sum of all the blind d.n.f. of the function  $f$ ); the concept of a "point, regular with respect to  $(\mathcal{U}, \mathcal{U}_L)$ " is introduced; the properties of such points are studied; the necessary and sufficient condition for non-entry of the conjunction  $U_j$  in the d.n.f.  $\mathcal{U}_{LT}$  is obtained. The transition algorithm from an abbreviated d.r.f.  $\mathcal{U}$  to the d.n.f.  $\mathcal{U}_{LT}$  constitutes a substantial strengthening of Quine's

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3/582/62/000/003/001/013  
D405/301

Set-theoretical methods ...

algorithm. Chapter III deals with the simplifying algorithm A, effecting the elimination of the conjunctions  $N_j$  for which  $N_j = M_1 \cup M_2$  ( $M_1$  and  $M_2$  being some special sets). It is shown that the eliminated conjunctions do not enter any of the minimal d.n.f. A theorem is formulated on the independence of the final result of applying the algorithm, of the elementary steps of ordering the conjunctions of the simplified d.n.f.'s. The algorithm A' is introduced, which is simpler than A. The result of applying the algorithm A to an abbreviated d.n.f. is a d.n.f. which is in general simpler-abbreviated, possessing all the main properties of the former. In Chapter IV the simplifying algorithms of d.n.f. are regarded as algorithms which accumulate information on the elementary conjunctions which enter the d.n.f.'s. The information is stored by marking the conjunctions. The algorithm is considered as a process of computing the marking indices. The type of index at each step is determined by the value of the index function  $\beta$ , which depends only on the construction of the d.n.f. "near", the conjunction for which the index is calculated. Some examples of  $\beta$ -function

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Set-theoretical methods ...

S/32/2/000/003/001/013  
I405/0/01

ions are considered. The conditions are ascertained under which the final result of applying the algorithm does not depend on the ordering operator  $A_{\pi}$  (the uniqueness theorem). As a corollary one obtains the uniqueness theorem for the algorithm A. In Chapter V the concept of an algorithm of finite order is introduced. It is shown that in the class of such algorithms the problem of passing from an abbreviated d.n.f. to a d.n.f. consisting of only those conjunctions which enter at least one of the minimal d.n.f., is insolvable. There are 5 figures.

SUBMITTED: September 1, 1960 (initially)  
June 29, 1961 (final version)

Card 4/4

ZHURAVLEV, Ye. N.

ZHURAVLEV, Ye. N., Cand Vet Sci -- (diss) "Oxyhemometric studies in experimental and spontaneous pneumonia in hogs." Len, 1958. 16 pp (Min of Agr USSR. Len Vet Inst). 100 copies (KL, 20-58, 100)

ZHURAVLEV, Ye.V. (Gor'kiy)

Treatment of acute lumbosacral radiculitis by subcutaneous insufflations of oxygen. Vrach. delo no.6136 Je '61.

(MIRA 15:1)

1. Mediko-sanitarnaya chast' (nachal'nik - shchishennyj vrach FSFSR  
V.V.Bogoslovskaya) Gor'kovskogo avtozavoda.  
(NERVES, SPINAL INFLAMMATION)  
(OXYGEN THERAPY)

ZHURAVLEV, Yu., kapitan

There will be greens in winter also. Starsh.-sev.zh. no.9:31  
S '62.

(Vegetables--Drying)

(MIRA 15:11)

11.0200

S/020/60/132/02/05/067

AUTHOR: Zhuravlev, Yu.

TITLE: Simplification Algorithms for Disjunctive Normal Forms

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 2,  
pp. 260-263

TEXT: The author considers disjunctive normal forms consisting of the conjunctions  $C_i^{(i)}$  ( $i = 0, 1, 2, 3, 4$ ) and satisfying the following conditions 1.) from  $C_i^{(i)} \subseteq \partial e$  and  $i \neq j$  it follows  $(C_i^{(i)}) \notin \partial e$   
2.) from  $C_i^{(i)} \subseteq \partial e$  it follows  $C_i \subseteq \partial e \cap M$  (the  
disjunctive normal form  $\partial e \cap M$  consists of all conjunctions from  
 $\partial e$  which belong to any minimum disjunctive normal form) 3.) from  
 $C_i^{(0)} \subseteq \partial e$  it follows  $C_i \notin \partial e \cap M$  4.) from  
 $C_i^{(3)} \subseteq \partial e$  it follows  $C_i \notin \partial e \cap M$  and  $C_i \in \partial e \cap M$  5.) from  
 $C_i^{(4)} \subseteq \partial e$  it follows  $C_i \subseteq \partial e \cap M$  ( $\partial e \cap M$  consists of all  
conjunctions which are contained in all disjunctive normal forms which  
are minimum with respect to  $\partial e$ ). The simplification algorithm for  
the disjunctive normal forms is completely determined, if the algorithm  
of the distribution of indices and the algorithm which regulates the  
order of the distribution of indices are given. The algorithm of the

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S/020/60/132/02/05/067

Simplification Algorithms for Disjunctive Normal Forms  
distribution of indices amounts to the calculation of the function  
 $\Phi$ , the range of which consists of the indices (0), (1), (2), (3),  
(4). In the present paper the author considers algorithms with  
monotonic  $\Phi$ . The simplification algorithms are distributed into elementary  
algorithms and logical conditions (see (Ref. 4,5)) and are described;  
the logical scheme common to all simplification algorithms with  
monotonic functions  $\Phi$  is given.  
There are 5 references: 3 Soviet and 2 American.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V.  
Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: January 12, 1960 by S. L. Sobolev, Academician

SUBMITTED: January 7, 1960

X

Card 2/2

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065020016-9

BALABAYEV, G.M., inzh.; DZHEVAGA, I.I., kand. tekhn. nauk; ZHURAVLEV,  
Yu.A., inzh.; ZAPOROZHETS, Ye.A., inzh.

Automatic welding under flux of shaft liners. Sudostroenie  
30 no.10:45-47 O '64.  
(MIRA 17:12)

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065020016-9"

**Mathematical and Experimental Mathematics-based Methodology, Generalization and Automation in the Building-Building Industry**, Moscow, 1995. 319 p., 20,000 copies printed.

processes, while being an increased use production equipment and technological methods in industrial planning.

Domestic Transport of Low Materials [Ferrocement, Plaster, Etc., Paints, and V.G. Glass, Etc., Etc.]	97
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System of handling and production of auxiliary operations	121
System of handling and production of auxiliary operations (continued), V.P. Shmelev, I.S. Bily, D.V. Demchenko, and N.N. Gerasimov	122
Standard arrangement for lifting, turning, and transferring of blanks	122
Liquidation and automation of auxiliary operations	122
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**197** *“The Great War” and the American People, 1914-1918* [pp. 1-12].  
**198** *“The Great War” and the American People, 1914-1918* [pp. 13-24].  
**199** *“The Great War” and the American People, 1914-1918* [pp. 25-36].  
**200** *“The Great War” and the American People, 1914-1918* [pp. 37-48].  
**201** *“The Great War” and the American People, 1914-1918* [pp. 49-60].  
**202** *“The Great War” and the American People, 1914-1918* [pp. 61-72].  
**203** *“The Great War” and the American People, 1914-1918* [pp. 73-84].  
**204** *“The Great War” and the American People, 1914-1918* [pp. 85-96].  
**205** *“The Great War” and the American People, 1914-1918* [pp. 97-108].  
**206** *“The Great War” and the American People, 1914-1918* [pp. 109-120].  
**207** *“The Great War” and the American People, 1914-1918* [pp. 121-132].  
**208** *“The Great War” and the American People, 1914-1918* [pp. 133-144].  
**209** *“The Great War” and the American People, 1914-1918* [pp. 145-156].  
**210** *“The Great War” and the American People, 1914-1918* [pp. 157-168].  
**211** *“The Great War” and the American People, 1914-1918* [pp. 169-180].  
**212** *“The Great War” and the American People, 1914-1918* [pp. 181-192].  
**213** *“The Great War” and the American People, 1914-1918* [pp. 193-204].  
**214** *“The Great War” and the American People, 1914-1918* [pp. 205-216].  
**215** *“The Great War” and the American People, 1914-1918* [pp. 217-228].  
**216** *“The Great War” and the American People, 1914-1918* [pp. 229-240].  
**217** *“The Great War” and the American People, 1914-1918* [pp. 241-252].  
**218** *“The Great War” and the American People, 1914-1918* [pp. 253-264].  
**219** *“The Great War” and the American People, 1914-1918* [pp. 265-276].  
**220** *“The Great War” and the American People, 1914-1918* [pp. 277-288].  
**221** *“The Great War” and the American People, 1914-1918* [pp. 289-290].

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**APPROVED FOR RELEASE: 07/16/2001**

CIA-RDP86-00513R002065020016-9"

SOV/96-58-9-12/21

AUTHORS: Kurskaya, T.A. and Zhuravlev, Yu.A. (Engineers)

TITLE: Industrial Tests on Sulpho-carbon and Cationite KU-1 in  
a System in which there is Preliminary Lime Treatment of  
the Water (Promyshlennye ispytaniya sul'fouglya i kationita  
KU-1 v skheme s predvaritel'nym izvestkovaniyem vody)

PERIODICAL: Teploenergetika, 1958, Nr 9, pp 62 - 64 (USSR)

ABSTRACT: The chemical industry is now producing two cationite materials on a large scale; these are: sulpho-carbon (a sulphation product of coke) and cationite KU-1 (a condensation product of sulpho-derivatives of phenol with formaline). It was, therefore, necessary to make a thorough comparison of these two materials under practical conditions. The tests had to be conducted in different types of water-treating systems. The materials were tested during 1956-57 in the cationite filters of the first stage of the water-purification equipment of heat- and electric-power station Nr 15 of Mosenergo. In this station make-up water is purified in four stages: coagulation combined with lime treatment, filtration through mechanical filters and two stages of sodium-cation treatment. The

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SOV/96-56-9-12/21

Industrial Tests on Sulpho-carbon and Cationite KU-1 in a System  
in which there is Preliminary Lime Treatment of the Water

particle sizes of the cationites tested are recorded in Table 1 and their apparent densities as swelling factors in Table 2. The method of regeneration is described. Data about the ion-exchange capacity of the cationites during the period of the tests are provided in Table 3. At first, the exchange capacity of both materials was the same. After a year's operation material KU-1 had increased in volume and exchange capacity, by some 11%. The volume and exchange capacity of the sulpho-carbon remain practically unchanged. The operating characteristics of the filters over the year are given in Table 4. The conclusion from tests is that, in a circuit with preliminary lime treatment of the water, the two materials have practically the same exchange capacity. Cationite KU-1 swells after prolonged operation and, apparently because of change in the particle size, its exchange capacity increases. That of sulpho-carbon remains unchanged. KU-1 cannot be recommended for general application unless its cost is reduced, because its

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Industrial Tests on Sulpho-carbon and Cationite KU-1 in a System  
in which there is Preliminary Lime Treatment of the Water

exchange capacity in this system of treatment is not  
much greater than that of sulpho-carbon, whereas it  
costs eight times as much.

There are no figures, 4 tables, no literature references

ASSOCIATIONS: Vsesozužnyy Teplotekhnicheskiy Institut (All-Union  
Thermo-Technical Institute) and TETs-15 Mosenergo  
(Heat & Electric Power Station Nr 15 of Mosenergo)

1. Steam power plants--USSR
2. Feed water--Purification
3. Water softeners--Effectiveness

Card 3/3

ZHURAVLEV, Yu.A.

Wagon with an ejector device for feeding the metal from the  
furnace to the forging hammer. Kuz.-shtam.proizv. 4 no.2:40-41  
F '62. (MIRA 15:2)

(Metallurgical plants--Equipment and supplies)  
(Industrial electric trucks)

ZHURAVLEV, Yu.A.

Machine with sliding die for the hot upsetting of rod-type  
forgings with two heads. Kuz.-shtam. proizv. 4 no.3:45-46  
Mr '62.

(MIRA 15:3)

(Forging machinery)

ZHURAVLEV, Yu.A.

Modernization of forging manipulators. Kuz-shtam. proizv. 3  
no. 3:42-43 Mr '61. (MIRA 14:6)  
(Forge shops--Equipment and supplies)

ZHURAVLEV, Yu. I.

"Etnicheskiy sostav i problemy natsional'nogo razvitiya narodov Nepala."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,  
Moscow, 3-10 Aug 64.

AUTHOR ZHURAVLEV Yu.I., PA - 3006  
TITLE On the Separability of Subsets of n-Dimensional Unit cubevertices  
(Ob otdelimosti podmnoghesto vershin n-mernogo yedinochnogo kuba -Russian)  
PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 2, pp 264-267 (U.S.R.)  
Received 6/1957 Reviewed 6/1957

ABSTRACT The present paper presents the complete solution of the problem of ascertaining such continuations where the function obtained tolerates the simplest (as to the numbers of letters of the variables) disjunctive or conjunctive normal form. In the course of solving this problem a criterion is obtained by which the unnecessary terms in the disjunctive normal form (d.n.f.) can be expressed. At the end of this paper the problems of simplifying the disjunctive normal form by introducing new variables is investigated.  
The functions of the algebraic logic, that are dependent on  $n$  arguments, can be regarded as functions, which are defined on the complex  $M_n$  of all corners of an  $n$ -dimensional unit cube and accept the values 0 and 1. Primarily a number of concepts are defined. Then the problem is raised in the following manner: In the class of the complexes  $M$  the complex  $M_f$  with the minimal index of simplicity is to be found. The author here gives the geometrical and the analytical solution of the problem of logical separability. The geometrical solution is of interest for theoretical investigations whereas the analytical solution is interesting from the practical point of view. Here both solutions are discussed in detail and the analytical solution is subdivided in several passages. Then a number of theo-

Card 1/2

CHURAVLEV Yu. I.

, 16(1) card 5 PHASE I BOOK EXPLOITATION

SOV/1708

Akademiya nauk SSSR. Matematicheskiy institut

Sbornik statey po matematicheskoy logike i yeye prilozheniyam k nekotorym voprosam kibernetiki (Collection of Articles on Mathematical Logic and Its Applications to Certain Problems of Cybernetics) Moscow, Izd-vo AN SSSR, 1958. 362 p. (Series: Its: Trudy, t. 51) 3,500 copies printed.

Resp. Ed.: S.V. Yablonskiy, Candidate of Physical and Mathematical Sciences; Ed. of Publishing House: A.Z. Ryvkin and L.K. Nikolayeva; Tech. Ed.: T.P. Polenova.

PURPOSE: This collection of articles contains original contributions of Soviet mathematicians in mathematical logic and is intended for mathematicians working in this field.

COVERAGE: The articles deal with studies of problems connected with mathematical logic and their applications to certain problems of cybernetics. Primarily, Switching circuits are studied, but many

Card 1/7

## Collection of Articles on Mathematical Logic (Cont.)

SOV/1708

of the results obtained are of a more general character. The content of the collection of articles is closely connected with many branches of cybernetics which study the methods of describing the processing of discrete information, problems of the analysis and synthesis of control systems, and methods of controlling the performance of control systems. The characteristic feature of these articles is their connection with various fields of mathematics such as mathematical logic, combination analysis, set theory, algebra, topology and theory of numbers. All articles were written in the years 1954-1955, and the concepts presented are arranged in the book in a systematic order. The first articles concern problems of mathematical logic, then problems of the theory of the synthesis of circuits are examined, and finally problems of the theory of controlling the performance of circuits are considered. The editor thanks Professor A.A. Lyapunov, Professor S.A. Yanovskiy, B.Yu. Pil'chak, A.P. Yershov, V.A. Uspenskiy, and Yu.I. Yanov for their remarks in connection with the final editing of the collection.

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## Collection of Articles on Mathematical Logic (Cont.)

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LK/ad  
6-16-59

AUTHOR:

Zhuravlev, Yu.I. (Moscow)

SOV/20-121-3-4/47

TITLE:

Optimum Algorithms for Selection (Ob optimal'nykh algoritmakh vybora)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 3, pp 411-414 (USSR)

ABSTRACT:

The matrix  $T_{n^q}$  is assumed to consist of  $n^q$  lines, each of which is formed by  $n$  symbols 0 or 1. Let all lines be different. The following problem is formulated: For an arbitrary word (of  $n$  symbols 0 and 1) which is identical with one of the lines of  $T_{n^q}$ , the number of this line is to be given. The trivial solution consists in an ordinary examination of all lines and is rather irksome for repeated application (e.g. for computers). In order to accelerate the method (and the computers too) the author sets up an algorithm by which the sought number can be quicker determined. It is shown that this solution is almost optimum. The paper consists of a great number of definitions and 5 theorems together with conclusions.

ASSOCIATION:

Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova  
(Moscow State University imeni M.V. Lomonosov)

PRESENTED:

Card 1/2  
March 24, 1958, by S.L. Sobolev, Academician

AUTHOR:

Zhuravlev, Yu.I.

SOV/20-123-2-4/50

TITLE:

On Mathematical Methods for the Control of Abstract Transformations  
(O matematicheskikh metodakh kontrolya abstraktnykh preobrazovaniy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 2, pp 227-230 (USSR)

ABSTRACT:

To the input of a technical device a certain physical magnitude  $x$  is introduced, at the output there appears an other physical magnitude  $f(x)$ ; such a device is called a transformer. By disturbances in  $s$ ,  $f(x)$  appears misrepresented at the output. The author investigates the possibilities of control of the work of  $s$ . Let  $x \in [a, b]$ , let  $f(x)$  be bounded and measurable on  $[a, b]$ . Let  $p_s(x)$  be the probability that the transformer  $s$  at the input signal  $x$  works correctly; let  $p_s(x)$  be measurable. Let  $\tilde{L}^{[a, b]}$  be the class of functions  $\varphi(x)$  measurable on  $[a, b]$  with  $0 \leq \varphi(x) \leq 1$  for  $x \in [a, b]$ . The control operator  $A_s[\varphi, x_0]$  is an operator defined for  $\varphi \in \tilde{L}^{[a, b]}$ ,  $a \leq x_0 \leq b$ , with the following properties:

1.  $A_s[\varphi, x] = F(x)$   $\forall x \in \tilde{L}^{[a, b]}$ ;
2. from  $\varphi_1 \geq \varphi_2$  there follows  $A_s[\varphi_1, x_0] \geq A_s[\varphi_2, x_0]$ ;
3.  $A_s[\varphi, x_0] = F(x_0) \geq \varphi(x_0)$ ;
4. from  $A_s[\varphi(x), x_0] = F(x)$  there follows  $F(x_0) = 1$ ;
5.  $A_s[A_s[\varphi, x_1], x_2] = A_s[\varphi, x_2]$ .

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On Mathematical Methods for the Control of Abstract  
Transformers

SOV/20-123-2-4,50

$A_s[A_s(\varphi, x_2), x_1]$ . The number  $N = \frac{1}{b-a} \int_{[a,b]} p_s(x) dx$  is denoted

to be the reliability of  $s$ . Let  $A_s[p_s(x), x_1] = P_{x_1}(x)$ ,

$A_s[P_{x_1}(x), x_2] = P_{x_1 x_2}(x)$  etc. As the reliability of  $s$  under  
the condition that the scheme works exactly for the input  
signals  $x_1, \dots, x_n$  the author denotes

$$N_{x_1, \dots, x_n} = \frac{1}{b-a} \int_{[a,b]} P_{x_1, \dots, x_n}(x) dx.$$

The transformer  $s$  is called controllable if to every  $\varepsilon > 0$   
there exists an  $n(\varepsilon)$  so that there exists a sequence  $x_1, \dots, x_{n(\varepsilon)}$   
for which  $1 - N_{x_1, \dots, x_{n(\varepsilon)}} \leq \varepsilon$ . The operator  $A_s[\varphi, x_0]$  is  
called stably reliable if to every  $p \in \overset{\sim}{L}_{[a,b]}$ , to every  $\varepsilon > 0$ ,  
and to every  $x \in [a, b]$  there exists a  $\delta(\varepsilon)$  so that from

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On Mathematical Methods for the Control of Abstract  
Transformers

SOV/20-123-2-4/50

$|x-x_0| < \delta$  there follows  $|F(x)-F(x_0)| < \epsilon$ .

Theorem: A transformer  $s$ , the control operator of which is stably reliable, is finitely controllable. Furthermore the author considers control operators of a more special form. He introduces some further notions and formulates five further theorems.

There is 1 Soviet reference.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova  
(Moscow State University imeni M.V.Lomonosov)

PRESENTED: June 27, 1958, by S.L.Sobolev, Academician

SUBMITTED: June 24, 1958

Card 3/3

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16(1)

AUTHOR: Zhuravlev, Yu. I.

SOV/20-126-2-10/64

TITLE: On the Construction of Minimal Disjunctive Normal Forms for the Functions of Logical Algebra

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2, pp 263-266 (USSR)

ABSTRACT: The author proposes a method which in many cases, permits to obtain systematically (without trying), the minimal disjunctive normal form. In many cases a little diminution of the steps to be carried out is reached. Five theorems and numerous definitions and special notations are given. The author mentions S.V. Yablonskiy and E.J.Nechiporuk who has reported about similar results already in 1958 in the seminar on discrete analysis at the mechanical-mathematical faculty of the Moscow State University.

There are 7 references, 2 of which are Soviet, and 5 American.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova  
(Moscow State University imeni M.V. Lomonosov)

PRESENTED: January 20, 1959, by S.L. Sobolev, Academician

SUBMITTED: January 19, 1959

Card 1/1

ZhURAVLEV, Yu. I. Cand Phys-Math Sci — (diss) "Concerning the Simplification of Disjunctive Normal Forms," Novosibirsk, 1960, 5 pp, 250 copies (Institute of Mathematics, Siberian Department, AS USSR) (KL, 47/60, 97)

S1219

16.0200

AUTHOR: Zhuravlev, Yu.I.

S/020/60/132/03/04/066

TITLE: On the Impossibility of Constructing Minimal Disjunctive Normal Forms for Functions of Logic Algebra In a Simple Class of Algorithms

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 3, pp. 504-506

TEXT: The author uses the notations of his preceding paper (Ref. 1). He considers the following problem M : Construct an algorithm A generated by the function  $\varphi$  with the property : 1) that if  $\varphi$  is monotone, then the image of an arbitrary shortened disjunctive normal form  $\mathcal{M}$  contains no conjunction with the index (0) in the algorithm A ; 2) that if  $\varphi$  is not monotone, then at least one image of an arbitrary shortened disjunctive normal form  $\mathcal{M}$  contains no conjunction with the index (0) in the algorithm A.

With the aid of neighborhoods of a conjunction  $\mathcal{M}^{(j)}$  in  $\mathcal{M}$  the author defines the notion of the index of the function  $\varphi$ . The simplification algorithm has the index k if the generating function  $\varphi$  has the index k. If  $D_k$  is the set of all algorithms with the index k, then A has a finite

index if  $A \subseteq \bigcup_{k=1}^{\infty} D_k$ . The principal result consists in the assertion that

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S/020/60/132/03/04/066

On the Impossibility of Constructing  
Minimal Disjunctive Normal Forms for Functions of Logic Algebra in a  
Single Class of Algorithms

the problem M is unsolvable in the class of algorithms with a finite index.  
There are 2 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova  
(Moscow State University imeni M.V. Lomonosov)

PRESENTED: January 12, 1960, by S.L. Sobolev, Academician

SUBMITTED: January 7, 1960

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28643  
S/020/61/139/006/008/022  
B104/B209

16.6800

AUTHOR: Zhuravlev, Yu. I.

TITLE: Algorithms of finite index for the simplification of disjunctive normal forms

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 6, 1961, 1329-1331

TEXT: The author uses concepts and denotations that he introduced in previous works (DAN, 132, no. 2, (1960); DAN, 132, no. 3, (1960)). The correct denotation

$\varphi\{\alpha^{(j)}, s(\alpha^{(j)}, \eta)\}$  is used in place of  $\varphi\{s(\alpha^{(j)}, \eta)\}$ . The author studies algorithms of a finite index which permit maximum possible simplification of disjunctive normal forms. Applying these algorithms to reduced disjunctive normal form  $\eta_f$  one can construct the disjunctive normal forms  $(\eta_f)_1, \dots, (\eta_f)_k, \dots$  ( $\eta_f \sqsupseteq (\eta_f)_1 \sqsupseteq \dots \sqsupseteq (\eta_f)_k \sqsupseteq \dots$ ), which possess the principal properties of reduced disjunctive normal forms: 1) Every function f of the algebra of logic uniquely corresponds to a disjunctive normal form  $(\eta_f)_i$ ,  $i = 1, 2, \dots, k, \dots$  2)  $(\eta_f)_{\sum M} \sqsubseteq (\eta_f)_i$ ,  $i$

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B104/B209

Algorithms of finite index ...

= 1, 2, ..., k, ... 3) no simpler disjunctive normal form than  $(n_f)_k$  can be obtained when an algorithm of index k is applied to the shortened disjunctive normal form. An algorithm A of index k is called a k-majorant algorithm when the inequality  $A \geq B$  holds for every algorithm B. When all algorithms generated by the function  $\varphi$  are k-majorant, this function is termed k-majorant, too. The k-majorant functions

$\psi_k \{a^{(j)}, s(a^{(j)}, n)\}$  ( $k = 1, 2, \dots, m, \dots$ ) are constructed, and the following five theorems are established and proved: (1) The functions  $\psi_k \{a^{(j)}, s_k(a^{(j)}, n_f)\}$  are monotonic. From this theorem it follows that all the algorithms generated by  $\psi_k$  are equivalent, and are here denoted by  $A_k$ . (2) The functions  $\psi_k$ , and therefore the algorithms  $A_k$ , are k-majorant. (3) The functions  $\tilde{\psi}_k$  ( $k = 1, 2, \dots, m, \dots$ ) are monotonic. (4) When the neighborhood of  $s_k(a^{(j)}, n(x_1 \dots x_n))$  is such that the set  $M_{k-1,k}^0 \cup M_{k-1,k}^1$  is contained in the set of apexes in an m-dimensional space and when  $m \leq n-2$ , then the following relation will hold:

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Algorithms of finite index ...

$$\varphi_k \{ \alpha(j), s_k(\alpha(j), n(x_1, \dots, x_n)) \} = \tilde{\varphi}_k \{ \alpha(j), s_k(\alpha(j), n(x_1, \dots, x_n)) \}.$$

The expressions

$$M_k(\Omega^n, M_l) = \bigcup_{i=1}^l N_{m_i} \cup N_{n_i}$$

$$M_{k-1}(\Omega^n, M_l) = \bigcup_{i=1}^l N_{m_i} \cup N_{n_i}, \quad M_{k-1,k} = M_k \setminus M_{k-1}. \quad (\text{A})$$

apply to this case. (5) When  $s_k(\alpha(j), n)$  is not degenerated for  $(\alpha(j), n(x_1, \dots, x_n))$  and when the set  $M_{k-1,k}^0 \cup M_{k-1,k}^1$  is contained in the set of apexes of a space having not more than  $(n-1)$  dimensions, the relation  $\varphi_k \{ \alpha(j), s_k(\alpha(j), n) \} = \tilde{\varphi}_k \{ \alpha(j), s_k(\alpha(j), n) \}$  applies. Theorems (4) and (5) indicate the conditions under which  $\varphi_k$  and  $\tilde{\varphi}_k$  agree in a definite neighborhood of  $s_k(\alpha(j), n)$ . In this case,  $\varphi_k$  can be calculated from the determinant  $\varphi_k \{ \alpha(j), s_k(\alpha(j), n_f) \} = (i)$ . There are 3 Soviet references.

ASSOCIATION: Institut matematiki s vychislitel'nym tsentrom Sibirs'kogo otdeleniya Akademii nauk SSSR (Mathematics Institute and

Card 3/4

Algorithms of finite index ...

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S/020/61/139/006/008/022  
B104/B209

Computer Center of the Siberian Department of the Academy of Sciences USSR)

PRESENTED: April 4, 1961, by S. L. Sobolev, Academician

SUBMITTED: March 3, 1961

Card 4/4

ZHURAVLEV, Yu.I.

Estimation of the number of irreducible disjunctive normal forms of functions in algebra of logic. Sib. mat. zhur.  
3 no.5:802-804 S-0 '62. (MIRA 15:9)  
(Logic, Symbolic and mathematical)

BUDKER, A.M.; LYAPUNOV, A.A., prof.; LAVRENT'YEV, M.A., akademik; VEKUA, I.N., akademik; MIGIRENKO, G.S., prof.; ZHURAVLEV, Yu.I., kand.fiziko-matem. nauk

Birth of a new method for the training of young scientists. Tekhn.mol'.  
30 no.11:14-17 '62. (MIRA 16:9)

1. Chlen-korrespondent AN SSSR (for Budker). 2. Predsedatel' Sibirs-kogo otdeleniya AN SSSR (for Lavrent'yev). 3. Rektor Novosibirskogo universiteta (for Vekua). 4. Sekretar' partiynogo komiteta Sibirs-kogo otdeleniya AN SSSR (for Migirenko). 5. Chlen Tsentral'nogo komiteta Vsesoyuznogo Leninskogo Kommunisticheskogo soyuza molodezhi (for Zhuravlev).

(Science—Study and teaching)  
(Siberia—Academy of Sciences of the U.S.S.R.)

ACCESSION NR: AR4020770

S/0044/64/000/001/V046/V046

SOURCE: RZh. Matematika, Abs. 1V272

AUTHOR: Zhuravlev, Yu. I.

TITLE: Algorithms with finite memory over disjunctive normal forms

CITED SOURCE: Sb. Diskretn. analiz. Vy\* p. Novosibirsk, 1963, 5-12

TOPIC TAGS: finite memory algorithm, disjunctive normal form, conjunction, logic algebra, basic predicate, monotonicity, monotonic function, logic algebra

TRANSLATION: The author proves a theorem which is a generalization of a result given in one of his former papers (RZh. Mat. 1961, 4A83). Here, instead of algorithms which simplify disjunctive normal forms with fixed memory, the author considers algorithms with finite memory which he introduces in the following manner. A system of two-place predicates  $P_1(\mathbf{u}, \mathbf{l}), \dots, P_k(\mathbf{u}, \mathbf{l})$  is given, where  $f$  is an arbitrary function of the logic algebra and  $\mathbf{u}$  is an elementary conjunction such that  $\mathbf{u} \subseteq N$ . The set of predicates is divided into two subsets. The

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ACCESSION NR: AR4020770

elements of the first  $P_1, \dots, P_m$ , are called basic predicates, and the remaining are called auxiliary predicates. With each conjunction is associated a vector  $(a_1, \dots, a_k)$ , where  $a_i, 1 < i < k$ , equals 1 if the value of the predicate  $P_i(\Omega, \beta)$  is not calculated, equals 0 if  $P_i(\Omega, \beta) = 0$ , and equals 1 if  $P_i(\Omega, \beta) = 1$ . Let

$\mathfrak{N} = \bigvee_{i=1}^m \Omega^{a_1 \dots a_k}$  realize  $f$ . The disjunctive normal form  $\mathfrak{N}$  is called admissible if for all  $\alpha, \beta \in A$ ,  $a_{ij} = P_j(\Omega_i, \beta), 1 < i < m, 1 < j < k$ . Only admissible disjunctive normal forms are considered. In this way, as was done earlier, the neighborhood  $S(\Omega^*, \dots, \Omega_k, \mathfrak{N})$  is defined. There exists a system of functions

$$\begin{aligned}\varphi_i[\Omega^*, \dots, \Omega_k, S(\Omega^*, \dots, \Omega_k, \mathfrak{N})] = \\ - (a_1, \dots, \beta, \dots, a_k),\end{aligned}$$

$1 < i < k$ , where  $\beta \in \{0, 1\}$ . The definition of an admissible  $\varphi_i$  is

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ACCESSION NR: AR4020770

analogous to the former. On the basis of the relations  $\Delta < 0$ ,  $0 < \cdot$ , and  $(\alpha_1, \dots, \alpha_k) < (\beta_1, \dots, \beta_k)$ , which take place if  $\alpha_i < \beta_i, 1 \leq i \leq k$ , the author introduces a partial ordering in the set of conjunctions, disjunctive normal forms, and neighborhoods (this is similar to what he did earlier). The symbol  $\wedge$  is retained to represent informational equality. A definition of monotonicity of  $\varphi_i$  is introduced which is analogous to the former. Let  $A^i$  be algorithms which fully order the set of all pairs  $(Q^{(1)}, \dots, Q^{(k)}, \beta)$ , where  $Q^{(1)}, \dots, Q^{(k)}$  are conjunctions taken from  $\mathcal{P}^i(\{1, \dots, k\})$ , such that  $\Delta = \Delta_i$ . There is a one-to-one correspondence between each algorithm  $A$  over a disjunctive normal form and the collection  $(A_i, \varphi_1, \dots, \varphi_k, P_{i1}, \dots, P_{ik})$ . The definition of the algorithm  $A$  is analogous to the former, but there exists a peculiarity: if, after completing a recurrent step of the algorithm  $A$ , a disjunctive normal form is attained, in which no one conjunction has coordinates with numbers  $i_1, \dots, i_k$  equal to  $\Delta$ , then the algorithm  $A$  is finished. The algorithms  $A$  and  $B$  belong

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ACCESSION NR: AR4020770

to the class  $K(\varphi_1, \dots, \varphi_k, P_{l_1}, \dots, P_{l_t})$ , if the collections  $(A_n, \varphi_1, \dots, \varphi_k, P_{l_1}, \dots, P_{l_t})$  and  $(A_n^*, \varphi_1, \dots, \varphi_k, P_{l_1}, \dots, P_{l_t})$ , respectively, are associated with them. Let  $\Delta_{l_1 \dots l_t}(\mathfrak{M})$  be an operator which, in vectors whose components are taken from all conjunctions in  $\mathfrak{M}$ , interchanges the values of all coordinates, except  $l_1, \dots, l_t$ , on  $\Delta$ . The algorithms A and B belonging to one class are called equivalent with respect to the system  $P_{l_1}, \dots, P_{l_t}$ , if for each admissible disjunctive normal form,

$$\exists \Delta_{l_1 \dots l_t}(A(\mathfrak{M})) \wedge \Delta_{l_1 \dots l_t}(B(\mathfrak{M})).$$

Theorem. If  $\varphi_1, \dots, \varphi_k$  are monotonic functions, then all algorithms taken from the class  $K(\varphi_1, \dots, \varphi_k, P_{l_1}, \dots, P_{l_t})$  are equivalent with respect to the system  $P_{l_1}, \dots, P_{l_t}$ .

V. Khrapchenko

DATE ACQ: 03Mar64

SUB CODE: MM

ENCL: CO

Card 4/4

ACCESSION NR: AR4020771

S/0044/64/000/001/V046/V047

SOURCE: RZh. Matematika, Abs. 1V273

AUTHOR: Zhuravlev, Yu. I.

TITLE: Incidental variables for functions of a logic algebra which are not  
everywhere defined

CITED SOURCE: Sb. Diskretn. analiz. Vy\*p. Novosibirsk, 1963, 28-31

TOPIC TAGS: not everywhere defined Boolean function, logic algebra,  
admissible set, impasseTRANSLATION: The author considers the set  $P$  of Boolean functions  
 $F(x_1, \dots, x_n)$  which are not everywhere defined. An arbitrary non-empty  
subset  $M = \{x_{i_1}, \dots, x_{i_k}\}$  of the set  $M_n = \{x_1, \dots, x_n\}$  is called admissible  
for  $F(x_1, \dots, x_n)$  if there exists a partial Boolean function  $\varphi(x_{i_1}, \dots, x_{i_k})$ 

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ACCESSION NR: AR4020771

such that  $F(x_1, \dots, x_n) \equiv \varphi(x_{1_1}, \dots, x_{1_k})$ . An admissible set M is called an impasse for  $F(x_1, \dots, x_n)$ . If no proper subset M is admissible for  $F(x_1, \dots, x_n)$ . Let  $l_n(F)$  be the number of different impasses for  $F(x_1, \dots, x_n)$ , and  $l(n) = \max l_n(F)$ .

Theorem 1.

$$l(n) = C_n^{\left[\frac{n}{2}\right]}$$

Let  $M_1$  be an impasse for  $F(x_1, \dots, x_n)$ , consisting of the largest number of elements  $K_1(F)$  among the remaining impasses, and let  $M_2$  be an impasse for  $F(x_1, \dots, x_n)$  consisting of the smallest number of elements  $K_2(F)$ . Also let

$$\frac{K_1(F)}{K_2(F)} = m_n(F) \text{ and } m(n) = \max_{F \in \mathcal{P}} m_n(F).$$

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ACCESSION NR: AR4020771

Theorem 2.  $m(n) = n-1$

In conclusion the author constructs an algorithm which isolates all impasses of partial Boolean functions.

V. Khrapchenko

DATE ACQ: 03Mar64

SUB CODE: MM

ENCL: 00

Card 3/3

ZHURAVLEV, Yu.I.

A class of algorithms over finite sets. Dokl. AN SSSR 151 no. 5:  
1025-1028 Ag '63. (MIRA 16:9)

1. Institut matematiki s vychislitel'nym tsentrom Sibirskogo  
otdeleniya AN SSSR. Predstavлено akademikom S.L. Sobolevym.  
(Algorithms)

ZHURAVLEV, Yu.I.

Determining the complexity of algorithms for the derivation of  
minimal disjunctive normal forms for algebra of logic functions.  
Disk. anal. no.3:41-77 '64. (MIRA 18:9)

A-36310-56

EW/(d) TIP(c)

7/16/2001 8/15/00 7/18/1021

AUTHORS: Zhuravlev, Yu.

TITLE: Estimating the complexity of local algorithms for certain extremal problems on finite sets

SOURCE: AN SSSR. Doklady\*, v. 158, no. 3, 1964, 101-102.

TOPIC TAGS: local algorithms, symbolic logic, disjunctive normal form, dnf, reduced dnf, minimal dnf, prime dnf, predicate logic, computer logic, graph theory

ABSTRACT: Local algorithms for computation of information about elements in finite sets were defined by Yu. I. Zhuravlev (DAN, 1964). In this article, the author's define two

has: no graphics  
Card 1/2

L 36310-65

ACCESSION NR: AP4047937

ASSOCIATION: Institut matematiki, Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Mathematics, Siberian Division, Academy of Sciences SSSR).

SUBMITTED: 16Apr64

ENCL: 00

SUB CODE: MA

NR REF Sov: 005

OTHER: 001

L 07968-67 EWT(d)/EWP(t)/ETI IJP(c)

ACC NR: AT6025803

SOURCE CODE: UR/3221/64/000/002/0028/0036

AUTHOR: Zhuravlev, Yu. I.

ORG: none

37  
B71

TITLE: Class of algorithms for choosing an element from a finite set

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut matematiki. Diskretnyy analiz,  
no. 2, 1964, 28-36

TOPIC TAGS: information storage and retrieval, algorithm, FINITE GROUP,  
MATRIX ELEMENT

ABSTRACT: The author defines the concept of a regular algorithm, which is, in  
some sense, optimal for determination of the number of the row of a given matrix  
coinciding with the given word s. It is shown that there exists a regular algo-  
rithm for each given matrix and such an algorithm is constructed. Orig. art. has  
19 formulas, 1 table, and 1 diagram.

SUB CODE: 12/ SUBM DATE: none

Card 1/1 Jdk

L 08787-67 EWT(d) IJP(c)

SOURCE CODE: UR/3221/64/000/002/0023/0027

ACC NR: AT6025802

AUTHOR: Zhuravlev, Yu. I.

ORG: none

TITLE: On one class of not-everywhere defined functions of the algebra of logic

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut matematiki. Diskretnyy analiz, no. 2, 1964, 23-27

TOPIC TAGS: algebraic logic, set theory, algebra, function, algorithm, minimization, Boolean function

ABSTRACT: The function  $F(x_1, x_2, \dots, x_n)$  is examined. It is assigned in the subset  $M_F$  of the set  $E$  of the vertices of an  $n$ -dimensional unit cube and takes values of 0 and 1. Such functions are called partial Boolean functions. Since the algorithms for "almost always" minimization do not produce any great effect if the complexity of the complete disjunctive normal form does not exceed  $n \cdot 2^n$ , the author isolates classes of partial Boolean functions for which the minimization algorithms give a substantial effect. It is proved that if

$$\lim_{n \rightarrow \infty} \frac{k(n)}{2^n} = \lim_{n \rightarrow \infty} \frac{\ell(n)}{2^n} = 0$$

and

$$s = 2 \log_2 \max(k, \ell) + o(n),$$

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L-08787-67

ACC NR: AT6025802

then

$$\lim_{n \rightarrow \infty} \frac{w_{k,l}(n)}{w_{k,l}(n)} = 1$$

where

$$\lim_{n \rightarrow \infty} \frac{s(n)}{\log_{\max(k,l)} n} = 0 \quad \lim_{n \rightarrow \infty} s(n) = \infty$$

Any partial function  $F(x_1, \dots, x_n)$  has a permissible set of variables, where the number of variables  $s(n)$  satisfies the inequality  
 $s(n) \leq \min(n, k \cdot l)$ .

The conditions

$$\lim_{n \rightarrow \infty} \frac{k(n)}{2^{\frac{n}{2}}} = \lim_{n \rightarrow \infty} \frac{l(n)}{2^{\frac{n}{2}}} = 0$$

are essential for the class  $F_k, l(n)$ , since only in this case does the number of variables in the permissible set of "almost all" functions not exceed  $n$ . Orig. art. has: 8 formulas.

SUB CODE: 12 / SUBM DATE: none / ORIG REF: 003

Card 2/2 net

L 08789-67 EWT(d) IJP(c)  
ACC NR: AT6025805

SOURCE CODE: UR/3221/64/000/003/0041/0077

AUTHOR: Zhuravlev, Yu. I.

ORG: none

TITLE: Estimates of the complexity of algorithms for constructing minimal disjunctive normal forms for functions of the algebra of logic

SOURCE: AN SSSR. Sibirskoys otdeleiniye. Institut matematiki. Diskretnyy analiz, no. 3, 1964, 41-77

TOPIC TAGS: algorithm, vector, algebraic logic, minimization, set theory, bounded function

ABSTRACT: This paper introduces the concept of computability in the class of local algorithms and studies the computability of the predicates that arise in solution of problems connected with the construction of minimal disjunctive normal function forms in the algebra of logic. This is a continuation of earlier works by Yu. I. Zhuravlev (Algoritmy s konechnoy pamyat'yu pod diz'yunktivnymi normal'nyimi formami. Trudy Instituta matematiki SO AN SSSR, Sb. Diskretnyy analiz, No. 1, Novosibirsk, 1963, pp. 5-12; Ob odnom klasse algoritmov nad konechnymi mnozhestvami, DAN SSSR, 1963, V. 151, No. 5), the terminology of which is used here. It is demonstrated that for any class  $\pi_s$ ,  $\pi_s \in \pi(P_1, \dots, P_l, s)$ , which are locally equal algorithms with an identical memory, there exists a majorant algorithm. Predicates connected with the construction

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ACC NR: AT6025805

of minimal, shortest, and irredundant disjunctive normal forms are examined. The predicate  $P_1(\alpha, m_f)$  ---conjunction  $\alpha$  enters all irredundant disjunctive normal forms of the function  $f$ --is (1, 1) computable. The predicate  $P_2(r, m_f)$ ---conjunction  $r$  enters at least one irredundant disjunctive normal form of the function  $f$ --is (2, 1) computable and is not (1, 1) computable. Orig. art. has: 2 tables, 11 theorems, and 2 formulas.

SUB CODE: 12/ SUBM DATE: none/ ORIG REF: 006

Card 2/2 nat

ACC NR: AR7008642

SOURCE CODE: UR/0372/66/000/012/V039/V039

AUTHOR: Zhuravlev, Yu. I.

TITLE: Estimates of the complexity of algorithms for construction of minimum disjunctive normal forms for functions in logic algebra

SOURCE: Ref. zh. Kibernetika, Abs. 12V240

REF SOURCE: Sb. Diskretn. analiz. Vyp. 3. Novosibirsk, 1964, 41-77

TOPIC TAGS: algorithm, algebraic logic, VECTOR

ABSTRACT: The author studies the complexity in operating with local algorithms (RZhMat, 1964, 1V272, 4V237) for solving various problems in simplification of disjunctive normal forms for functions in logic algebra. The essence of local algorithmic procedure may be described as follows: the conjunctions of a contracted disjunctive normal form have a mark vector with components which take on the values 0, 1 and Δ. A step in the algorithm consists of using certain rules for calculating a new value for the vector corresponding to some conjunction  $\mathfrak{U}$  from the values of vectors corresponding to conjunctions taken from the principal neighborhood of a given order  $k$  of the conjunction  $\mathfrak{U}$  (RZhMat, 1961, 4A84). The purpose of the algorithmic procedure is to separate from the contracted disjunctive normal form a subset of conjunctions which have certain properties. When the algorithm has been completed, the vec-

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UDC: 519.95

ACC NR: AR7008642

tors corresponding to these conjunctions will have a *one* in a definite digital place. Algorithms operating with neighborhoods of order  $k$  and vectors of length  $l$  the author calls  $(k, l)$ -algorithms. The fundamental results of the article are as follows:  
1) Separation of conjunctions appearing in all dead-end disjunctive normal forms may be accomplished by using the  $(1, 1)$ -algorithm; 2) Separation of conjunctions appearing in at least one dead-end disjunctive normal form (and accordingly in several dead-end disjunctive normal forms although not in all) may be accomplished by using the  $(2, 1)$ -algorithm but is not accessible to a single  $(1, 1)$ -algorithm; 3) The conjunctions appearing in any single minimum disjunctive normal form (shortest disjunctive normal form) cannot be separated by any  $(k, l)$ -algorithm for any fixed  $k$  and  $l$  where the number  $n$  of variables in the function being analyzed is sufficiently large; this problem is even insoluble with increasing  $k_n$  and  $l_n$  if the condition  $\frac{2^n}{B(n)} < k_n$  is fulfilled where  $B(n)$  is some function which increases extremely slowly. This result is an indication of the difficulty in using algorithms for constructing minimum disjunctive normal forms; 4) The  $(1, 1)$ -algorithm may be used for separation of conjunctions appearing in disjunctive normal forms which are close to minimum in some sense. O. Lulanov.  
[Translation of abstract]

SUB CODE: 12

Card 2/2

ZHURAVLEV, Yu.I. (Novosibirsk); FINKEL'SHTEYN, Yu.Yu. (Moskva)

Local algorithms for integer linear programming problems.  
Probl. kib. no.14:289-295 '65. (MRA 19:1)

1. Submitted Oct. 13, 1964.

L 56040-65 E/T(d)/T Pg-4/Pg-4 UTR( )  
 ACCESSION NR: AR5014012 UU/0372/65/004/004/V029/V029  
 519.95;318

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C

SOURCE: Ref. zh. Kibernetika. Odjalyay. tom. 4 V159

AUTHOR: Zhuravlev, Yu. I.

TITLE: On one class of algorithms of element selection from a finite set

CITED SOURCE: Sb. Diskretn. analiz. Vyp. 12. Novosibirsk, 1984, 28-30

TOPIC TAGS: rectangular matrix, algorithm construction, search algorithm, problem U solution, element selection, control theory

TRANSLATION: The report considers rectangular matrices (tablets)  $T_{n,p}$  consisting of  $n$  rows and  $p$  columns and containing the symbols 0 and 1. Problem U consists of finding, for an arbitrary word  $S$  (coincident with the row of matrix  $T_{n,p}$ ), the number of the particular row coinciding with the word  $S$ . In accession we apply operators  $A_i$ ,  $i=0,1,\dots,n$ . At  $i > 0$  one obtains matrix  $T_{n,p}^i$  by applying operator  $A_i$  to matrix  $T_{n,p}$  and word  $S$ . Matrix  $T_{n,p}^i$  consists of  $n$  rows from  $T_{n,p}$ , containing in the  $i$ th position a symbol from the  $(i)$ th position of word  $S$ . Rows from matrix  $T_{n,p}^i$  retain the numbers characterizing them in  $T_{n,p}$ . Operators

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ACCESSION NR: AR5014012

for A, for any given matrix  $T_{\text{alg}}$ , and any given word S indicates the row of matrix  $T_{\text{alg}}$ , which coincides with  $S(T_{\text{alg}})$ , indicates the number of that row. It is recommended that operator  $\delta$  should be used in instances when the row  $T_{\text{alg}}$  is

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ACCESSION NR: AR5014012

A regular algorithm  $\Gamma$ , compiled solely with operators  $\oplus$  and  $\otimes$ , is described for solving a problem of the type  $U = \Gamma(X)$  at a given matrix  $T^{(q)}$ . The complexity of applying  $\Gamma$  to  $X$  is determined by the number of additions and multiplications. The numbers  $n_1$  and  $n_2$  are arbitrary given functions of  $q$  and  $m$ . The complexity of applying  $\Gamma$  to  $X$  is determined by the number of additions and multiplications. The functions  $P_1(q)$  and  $P_2(q)$  are arbitrary functions satisfying certain natural conditions. Functions  $P_1(q)$  and  $P_2(q)$  are of primary interest. The author illustrates this construction of a regular algorithm and employs it to obtain some estimates from the top for the complexity of problem  $U$  at an assigned word length  $n$ . V. Savchenko

SUB CODE: IE-DP

ENGL 00

L 51574-65 EWT(c)/T Pg.4/Ph-1 TIP(c)  
ACCESSION NR: AP5012118 UIR/6378/63/000/001/0012/0010

16  
B

AUTHOR: Zhuravlev, Yu. I.

TITLE: Local algorithms for information calculations. I

SOURCE: Kibernetika, no. 1, 1966, 12-19

TOPIC TAGS: information calculation, local algorithm, algorithmic problem, algorithm determination, selection algorithm, optimum algorithm

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I 51574-65

ACCESSION NR. AP5012118

paper defines and studies the general properties of local algorithms that provide that in some cases there are optimum local algorithms for given parameter sets. On the other hand, there are optimum local algorithms that cannot be found universal local algorithms. The paper also gives a method for determining the optimum local algorithm for a given set of parameters.

"APPROVED FOR RELEASE: 07/16/2001

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Orig. arr. last 2 formulars

ASSOCIATION: None

SUBMITTED: 01Sep64

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ENCL: 00 SUB CODE: DP

OTHER: 000

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APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065020016-9"

1-63329-45 EFT(d)/T/DP(I) Pg.1 JI(c)

ACCESSION NR: AP5017616 REC/2587/65/000/014/0300/ 1005

AUTHOR: Churaylev, Yu. I. [and others] Strikov, Lubimov, N. A. (Editor)

[Title page. Original title from document. Internal punctuation and spelling may vary.]

SOURCE: Problemy kibernetiki, no. 14, 1963, 289-295

TOPIC TAGS: linear integral programming, local algorithm, integer-variable  
programming

ABSTRACT: The interest in integer-variable linear programming was greatly stimulated by the appearance of the R. F. Gomory paper (Bull. Amer. Math. Soc., 64, 5, 1958, 275-278). However, the extent of the combinatorial aspect of the

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ACCESSION NR: A25017610

definition and basic properties of local algorithms are those given by Yu. N. Zhuravlev (DAN SSSR, 191, 5, 1963). The new algorithm is very easily suitable for the solution of the so-called quasi-block problems. This, in fact, has formulas.

ASSOCIATION: None

INCL: 30      BY: CDRDP

SUBMITTED: 13 Oct 64

OTHER: 002

NO REF Sov: 001

L 36085-66 EWT(d)/T IJP(c)  
ACC NR: AF6017924

SOURCE CODE: UR/0378/66/000/002/001/0011

44

B

AUTHOR: Zhuravlev, Yu. I.

ORG: none

TITLE: Local algorithms of calculation of information. Part 2.

SOURCE: Kibernetika, no. 2, 1966, 1-11

TOPIC TAGS: algorithm, information processing, Boolean function, linear  
programming

ABSTRACT: Earlier (Zhurn. "Kibernetika", No. 1, K., 1965) the present author derived a concept of local algorithms and proved the existence of the best (majority or majorant) local algorithms. In the present article, the author investigates the structure of local algorithms of an arbitrary index and with a memory magnitude equal to two. The problems to which these algorithms pertain include problems of minimizing Boolean functions and some classes of problems of integral linear programming. Orig. art. has: 6 formulas.

SUB CODE: 12 / SUBM DATE: 17Dec65 / ORIG. REF: 001

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UDC: 519.95

Card 1/1

ZHURAVLEV Yu. M.  
OSTROVSKIY, S.Ya.; ZHURAVLEV, Yu.M., inzh.

Ventilation unit used for removing harmful gases and dust from  
compartments. Sudostroenie 24 no.4:41 Ap '58. (MIRA 11:4)  
(Ships--Heating and ventilation)

ACC NR: AP7000139

(4)

SOURCE CODE: UR/0177/66/000/011/0055/0056

AUTHOR: Zhuravlev, Yu. N. (Captain; Medical service)

ORG: none

TITLE: The training of submarine physicians and sanitation personnel

SOURCE: Vojenno-meditsinskiy zhurnal, no. 11, 1966, 55-56

TOPIC TAGS: naval medicine, ~~submarine medicine~~, ~~submarine training~~, ~~submarine~~, ~~physicians~~, medical training, naval training, specialized training

ABSTRACT: This short article discusses in very general terms the disadvantages of training submarine physicians and medical corpsmen in shore installations as compared to training them on so-called floating bases. These floating bases, probably hospital ships, are far better equipped to duplicate conditions which would be encountered on a submarine. Physicians and their corpsmen are trained to conduct emergency operations under storm conditions. Some general instrument and operating room sterilization procedures are outlined. The author, a Captain in the Medical service, concluded that the use of floating bases for training purposes constituted one additional mode for better developing the combat readiness of submarine medical teams.

[WA-67]

SUB CODE: 05, 06/ SUBM DATE: none

Card 1/1

UDC: 359.6:629.127

ACCESSION NR: AR4036030

S/0299/64/000/006/G007/G007

SOURCE: Referativnyy zhurnal. Biologiya, Abs. 6G36

AUTHOR: Zhuravlev, Yu. N.

TITLE: Products of photosynthesis in pine needles of various ages

CITED SOURCE: Tr. In-ta biol. Ural'skiy fil. AN SSSR, vykp. 35, 1963, 85-92

TOPIC TAGS: photosynthesis, pine needle, plant physiology, plant organ age effect, phosphoglyceric acid, carbohydrate metabolism, amino acid metabolism, tracer study, paper chromatography

ABSTRACT: Photosynthesis in young shoots of the common pine was studied in June (accelerated growth), the middle of July (the end of growth) and the second half of August (period of bud formation) by exposing the needles to  $\text{CO}_2^{14}$  in a glass chamber connected to a mercury-sealed apparatus. The material was analyzed by the technique of Mokronosov, using two-dimensional paper chromatography. The rate of assimilation of  $\text{CO}_2$  was highest during the first year of life of the needles and decreased with age. After a 1-5 second exposure, most of the radioactivity

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ACCESSION NR: AR4036030

was detected in the phosphoglyceric acid. When the exposure time was increased to 5 minutes, sucrose, glucose, fructose, aspartic acid, glutamic acid, serine, alanine, glyceric acid, malic acid and citric acid all became radioactive. This order provides a basis for concluding that photosynthesis in the pine proceeds according to the usual pathways. One peculiarity is the marked formation of carbohydrates and the slight accumulation of organic and amino acids. After a 5-minute exposure, up to 85% of the C<sup>14</sup> is recovered in the sucrose-starch-hexose fraction. Up to one third of all the primarily synthesized carbohydrate consists of glucose and fructose, which indicates the markedly reductive orientation of primary synthesis in the pine. V. Shipilov.

SUB CODE: LS

DATE ACQ: 09Apr64

ENCL: 00

Card 2/2

L 26707-66 EMT(d)/EWP(1) IJP(c) BH/CG/JIM(BP)	SOURCE CODE: UR/2690/65/009/000/0211/0218		
ACC NR: AT5028454			
AUTHOR: Dolgov, A. I.; Zhuravlev, Yu. P.		X/3	
ORG: none *		BT/	
TITLE: Possibility of rapid information exchange between storages		U	
SOURCE: AN LatSSR. Institut elektroniki i vychislitel'noy tekhniki. Trudy, v. 9, 1965. Avtomatika i vychislitel'naya tekhnika, 211-218			
TOPIC TAGS: computer storage, digital computer, number			
<p><b>ABSTRACT:</b> In digital computer work, a great deal of numbers often has to be transferred from external to internal storage and vice versa, which necessitates interrupting the computing work during such transfers. A method for simultaneous number transfers in both directions is suggested to save time. The problem is reduced to a simultaneous transfer of one pair of numbers in opposite directions.</p> <p>this algorithm describes the operation: I 1) 'a → Pr1; 1*) 'A → Pr2;      Also, the operation is described by directed graphs.      The microoperations 1, 1* and 3, 3* require different functional elements and, hence, can be</p>			
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ACC NR. AT5028454

performed independently from each other. The microoperations  $z_1, z_2^*$  require a simultaneous exchange of information between two registers. Such an exchange is possible if the information is transcribed with a delay via two inputs of each digit. Sometimes the delay can be provided by the functional elements proper. Additional control circuits are required in any case. Orig. art. has: 5 figures, 24 formulas, and 1 table.

SUB CODE: 09 / SUBM DATE: none

Card 212 MjS

ZHURAVEL'-YAKOBSON, R.Yu.

Hospitalization of patients with individual diseases (according to data of a thorough study of the incidence of disease among the Kiev population). Zdrav. Res. Feder. 7 no.7:24-27 Jl '63. (MIRA 16:9)

1. Iz otdela organizatsii zdравоохранения (zav. G.M. Siderenko-Zelezinskaya) Ukrainskogo nauchno-issledovatel'skogo instituta kommunal'noy gigiyeny (dir. "chlen-korrespondent AMN SSSR prof. D.N.Kalyuzhnnyy).

(KIEV—MEDICAL STATISTICS)